GP2D12 红外测距系统

摘　要

十九大以来我国居民生活水平得到了大大的提高，科研创新能力不断提高，传统测距工具不能满足我们的需求，给生活带来的非常多的不便。可见光距离测定就能够为使用者提供大大的便利。本文设计 GP2D12 可见光测定距离的系统相对于传统测定方法还能够节约时间，消除潜在数据误差。本次设计的 GP2D12 可见光测定距离的系统价格低性能好，适合于在社会生活中大力推广运用。

当代科学研究的发展，踏入了许多新的应用领域，而在测量距离上相继用到了激光测距、红外雷达系统的测定、超声波的测距及可见光的测距。

为了可以使被测量对象的短距离、精准的无线测出，本文使用可见光的探测送达组件作为间距感应器，微控制器作为 CPU，编撰 A/D 转化、显示的程序，研发了一套便携式的可见光间距测定的系统，该系统可以高分辨率的同步测定间距，并且将可得相距量通过数码管揭示出来。并且具有超限报警功能。本系统结构简单、运行可靠、测定精度高、方便使用，另外该系统构成了一套完备的嵌入式研发的平台，可以展开扩充、植入和做更进一步的研发。

关键词：微型计算器；可见光测定距离

Abstract

Since the 19th CPC national congress, the living standard of Chinese residents has been greatly improved, and the ability of scientific research and innovation has been constantly improved. Infrared distance measurement can provide users with great convenience. The GP2D12 infrared distance measurement system designed in this paper can also save time and eliminate potential data errors compared with traditional measurement methods. This design of GP2D12 infrared distance measurement system low price and good performance, very suitable for the promotion and use in daily life.

The development of contemporary scientific research has stepped into many new application fields, and in the measurement range has been used laser ranging, infrared radar system measurement, ultrasonic ranging and infrared ranging.

To do at close range, precision of wireless measurement of the object, this article USES the infrared detection components of service as A distance sensor, microcontroller as the CPU, compiled A/D conversion, display program, developed A portable optical distance measuring system, the system can measure the distance between high resolution of synchronization, and will be available from quantity revealed by digital tube. This design of GP2D12 infrared distance measurement system low price and good performance, very suitable for the promotion and use in daily life. And has the overlimit alarm function. The system is simple in structure, reliable in operation, high in measurement accuracy, and easy to use. In addition, the system constitutes a complete embedded r&d platform, which can be expanded, implanted and further developed.

Key words: microcomputer; Infrared distance

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